US Army Corps of Engineers

Regulatory Branch
333 Market Street
San Francisco, CA 94105-2197

SAN FRANCISCO DISTRICT

PUBLIC NOTICE

Project: Sandia Labs Arroyo Seco Improvement Project

NUMBER: 400195S DATE: November 17, 2006 RESPONSE REQUIRED BY: December 18, 2005

PROJECT MANAGER: Holly Costa PHONE: 415-977-8438 Email: Holly.N.Costa@usace.army.mil

1. **INTRODUCTION:** Sandia National Laboratories (Post Office Box 969, Livermore, California, 94551) has applied for a U.S. Army, Corps of Engineers (Corps) permit to implement channel improvements in Arroyo Seco, in the City of Livermore, Alameda County, California. This application is being processed pursuant to the provisions of Section 404 of the Clean Water Act (33 U.S.C. Section 1344).

2. **PROPOSED PROJECT:**

Project Site: The project will be located at various points along the entire length of Arroyo Seco on Sandia National Laboratories (SNL) Property from East Avenue to their southern property boundary, southwest of Thunderbird Lane and South Portal Drive.

Project Description: Under the Arroyo Seco Improvement Program, erosion would be repaired at eleven locations within the channel. Approximately 1800 linear feet of floodplain would be constructed to reduce flow velocities and future erosion within the channel. Native riparian vegetation would be planted at four locations along Arroyo Seco resulting in an additional 0.2 acre of riparian habitat. Five structures/utility lines that currently are obstructions for species migration would be removed from the streambed. Debris that is an obstruction to species migration would also be removed from three locations within the arroyo.

The Arroyo Seco Improvement Program is scheduled for implementation over a 10 year period. A summary of activities included in the Arroyo Seco Improvement Program is provided in Table 1. Sites 1, 3, 12 and 13 were previously authorized under a Nationwide Permit: Corps file number 29743S. Activity locations are indicated in Figure 2.

Purpose and Need: The basic purpose of this project is to correct existing channel stability problems associated with existing Arroyo Structures, provide protection against and management options to correct future bed and bank erosion, reduce the risk of future flooding, and provide additional and improved habitat and migration conditions for sensitive species that use Arroyo Seco on the SNL campus. The overall need for this project is protection from flooding and erosion.

Impacts: The project would permanently impact approximately 0.13 acres of Corps jurisdictional waters by discharge of fill into Arroyo Seco.

Mitigation: The channel improvement activities would create approximately 0.25 acre of floodplain, pond and riparian habitat within Arroyo Seco. See Figures 11 and 12.

3. **COMPLIANCE WITH VARIOUS FEDERAL LAWS:**

National Environmental Policy Act of 1969 (NEPA): The Corps will assess the environmental impacts of the proposed action in accordance with the

requirements of the National Environmental Policy Act of 1969 (42 U.S.C. Section 4371 et. seq.), the Council on Environmental Quality's Regulations (40 C.F.R. Parts 1500-1508), and the Corps' Regulations (33 C.F.R. Part 230 and Part 325, Appendix B). Unless otherwise stated, the Environmental Assessment will describe only the impacts (direct, indirect, and cumulative) resulting from activities within the Corps' jurisdiction. The documents used in the preparation of the Environmental Assessment will be on file with the U.S. Army Corps of Engineers, San Francisco District, Regulatory Branch, 333 Market Street, San Francisco, California 94105-2197.

Endangered Species Act of 1973 (ESA): Section 7 of the Endangered Species Act requires formal consultation with the U.S. Fish and Wildlife Service (FWS) and/or the National Marine Fisheries Service (NMFS) if a Corps permitted project may adversely affect any Federally listed threatened or endangered species or its designated critical habitat. The USFWS issued a Biological Opinion, dated December 8, 2004, for potential impacts to California Red-legged Frog (*Rana aurora draytonii*), critical habitat for the California Red-legged Frog, and California Tiger Salamander (*Ambystoma californiense*).

Magnuson-Stevens Fisheries Conservation and Management Act: The NMFS and several interagency fisheries councils have designated specific water bodies as Essential Fish Habitat (EFH) in accordance with the Magnuson-Stevens Fisheries Conservation and Management Act. There are no EFH concerns with this proposed project.

Clean Water Act of 1972 (CWA):

a. Water Quality: Under Section 401 of the Clean Water Act (33 U.S.C. Section 1341), an applicant for a Corps permit must first obtain a State water quality certification before a Corps permit may be issued. No Corps permit will be granted until the applicant obtains the required water quality certification. The Corps may assume a waiver of water quality certification if the State fails or refuses to act on a valid request for certification within 60 days after the receipt of a valid request, unless the District Engineer determines a shorter or longer period is reasonable for the State to act.

Those parties concerned with any water quality issue that may be associated with this project should write to the Executive Officer, California Regional Water Quality Control Board, San Francisco Bay Region, 1515 Clay Street, Suite 1400, Oakland, California 94612 by the close of the comment period of this Public Notice.

b. Alternatives: Evaluation of this proposed activity's impact includes application of the guidelines promulgated by the Administrator of the Environmental Protection Agency under Section 404(b)(1) of the Clean Water Act (33 U.S.C. Section 1344(b)). An evaluation has been made by this office under the guidelines and it was determined that the proposed project is water dependent.

Coastal Zone Management Act of 1972 (CZMA): Section 307 of the Coastal Zone Management Act requires the applicant to certify that the proposed project is consistent with the State's Coastal Zone Management Program, if applicable. The proposed project is not within the Coastal Zone.

National Historic Preservation Act of 1966 (NHPA): Based on a review of survey data on file with various City, State and Federal agencies, no historic or archeological resources are known to occur in the project vicinity. If unrecorded resources are discovered during construction of the project, operations will be suspended until the Corps completes consultation with the State Historic Preservation Office (SHPO) in accordance with Section 106 of the National Historic Preservation Act.

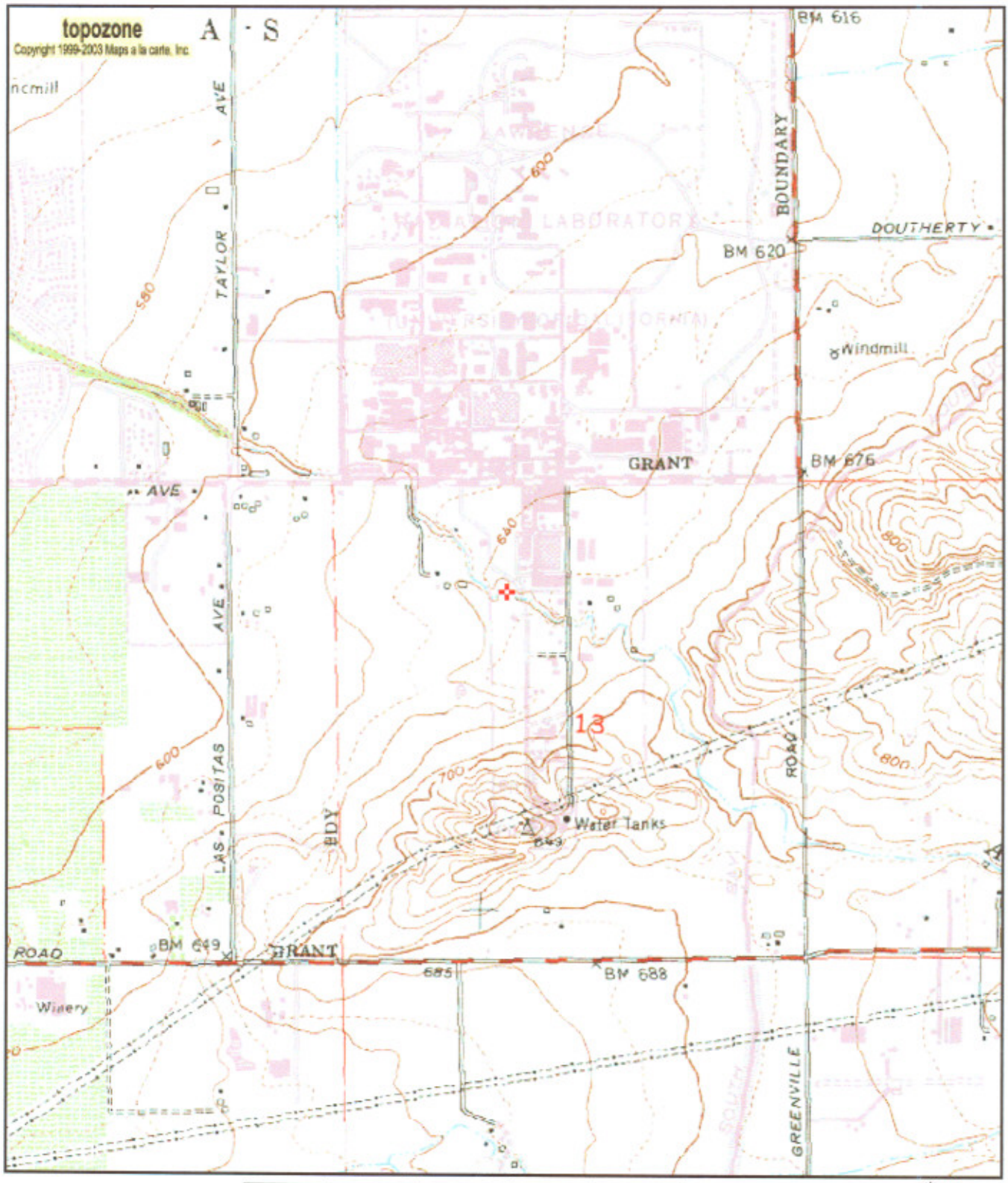
4. **PUBLIC INTEREST EVALUATION:** The decision whether to issue a permit will be based on an evaluation of the probable impact, including cumulative impact, of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefits that reasonably

may be expected to accrue from the proposed activity must be balanced against its reasonably foreseeable detriments. All factors that may be relevant to the proposal will be considered, including its cumulative effects. Among those factors are: conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership, and, in general, the needs and welfare of the people.

5. **CONSIDERATION OF COMMENTS:** The Corps of Engineers is soliciting comments from the public, Federal, State and local agencies and officials, Indian Tribes, and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps to determine whether to issue, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest in the proposed activity.

6. **SUBMISSION OF COMMENTS:** Interested parties may submit, in writing, any comments concerning this activity. Comments should include the applicant's name and the number and the date of this Public Notice, and should be forwarded so as to reach this office within the comment period specified on Page 1. Comments should be sent to the U.S. Army Corps of Engineers, San Francisco District, Regulatory Branch, 333 Market Street, San Francisco, California 94105-2197. It is the Corps' policy to forward any such comments that include objections to the applicant for resolution or rebuttal. Any person may also request, in writing, within the comment period of this Public Notice that a public hearing be held to consider this application. Requests for public hearings shall state, with particularity, the reasons for holding a public hearing. Additional details may be obtained by contacting the applicant whose name and address are indicated in the first paragraph of this Public Notice or by contacting Holly Costa of our office at telephone 415-977-8438 or E-mail: Holly.N.Costa@usace.army.mil. Details on any changes of a minor nature that are made in the final permit action will be provided upon request.

TopoZone - Sandia National Laboratories, USGS ALTAMONT (CA) Topo Map



UTM 10 613924E 4170490N (NAD27)

Sandia National Laboratories, USGS ALTAMONT (CA) Quadrangle

Projection is UTM Zone 10 NAD83

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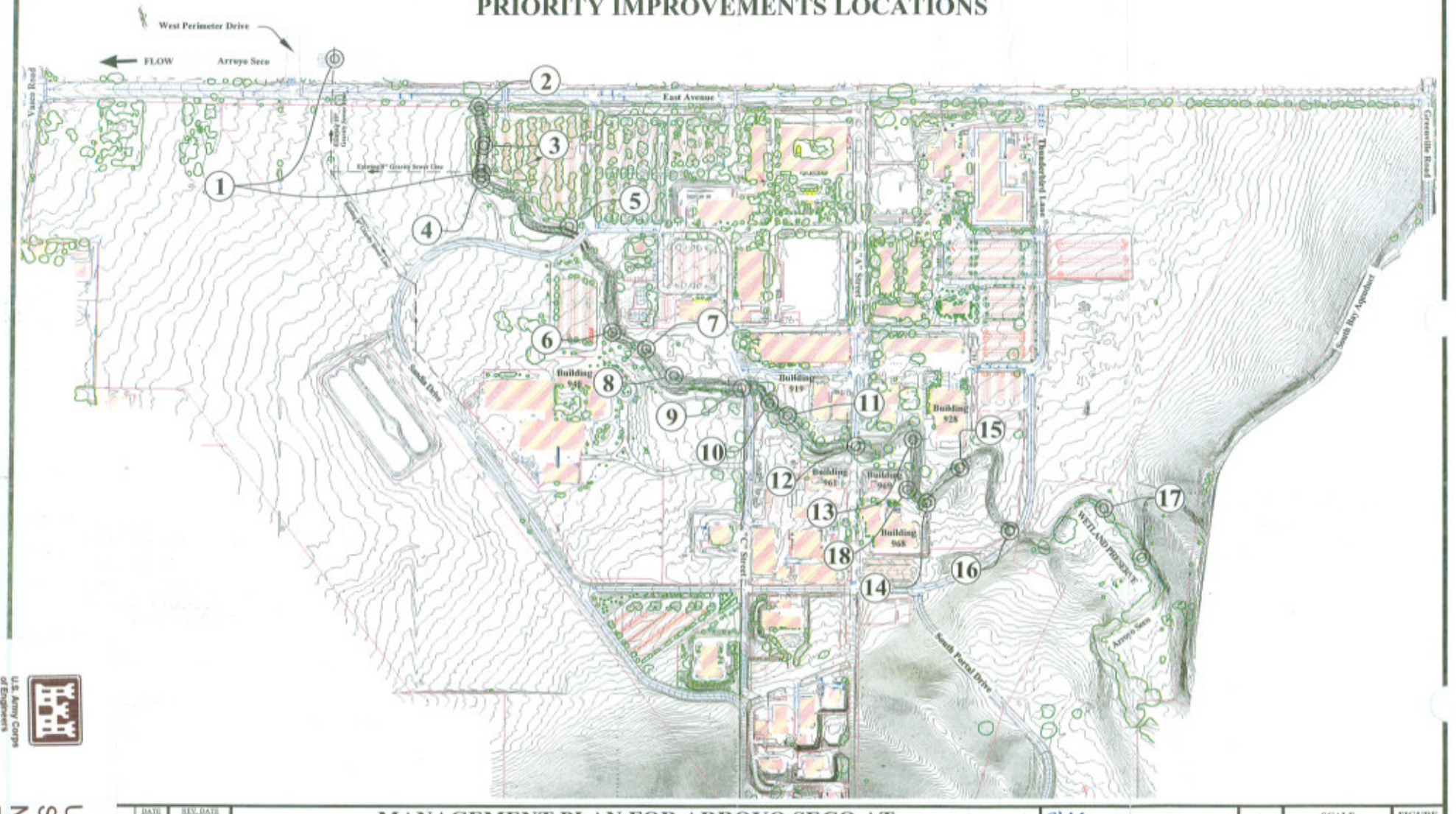
November 13, 2006
Figure 1

PRIORITY IMPROVEMENTS LOCATIONS



MANAGEMENT PLAN FOR ARROYO SECO AT SANDIA NATIONAL LABORATORIES, LIVERMORE, CALIFORNIA

PROJECT# MP00024

	DATE	REV. DATE
RN	01/02	

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FIGURE 6

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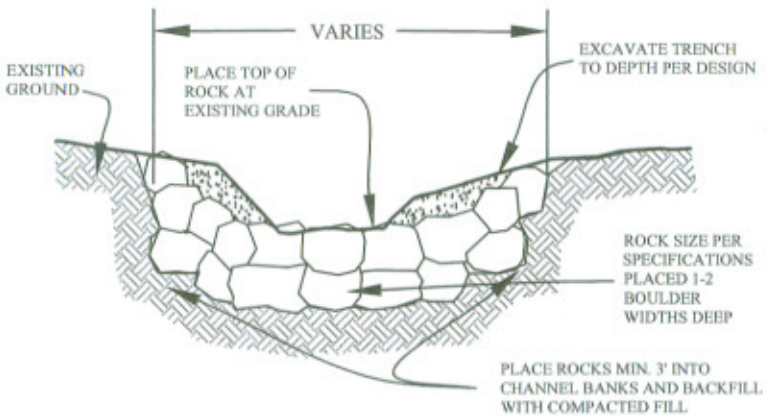
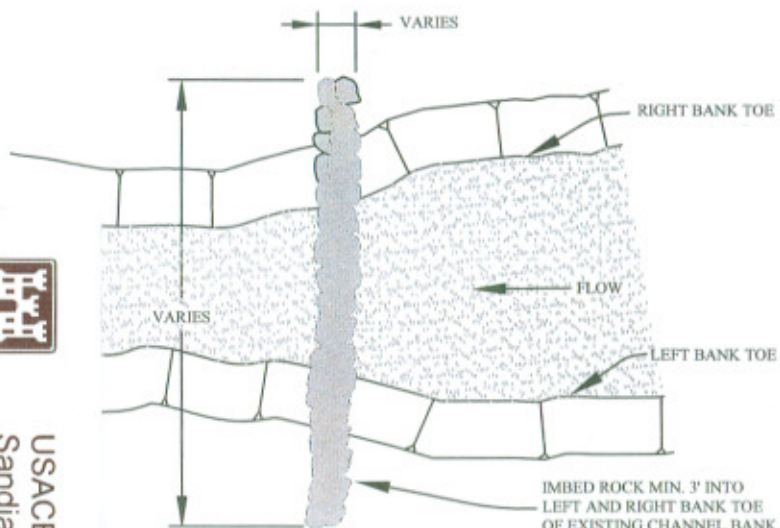
Figure 2

TYPICAL GRADE CONTROL AND SPLASH CURTAIN DETAILS

TYPICAL GRADE CONTROL DETAIL

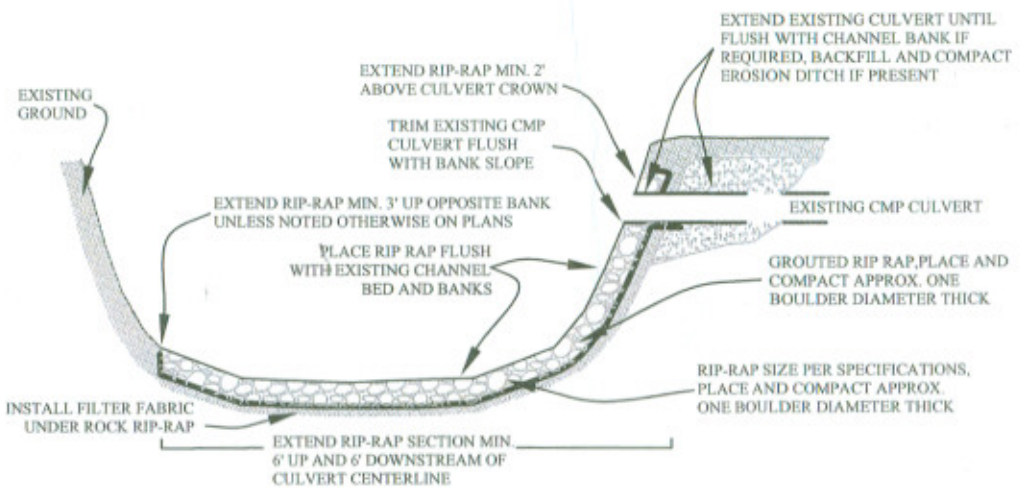


SECTION VIEW

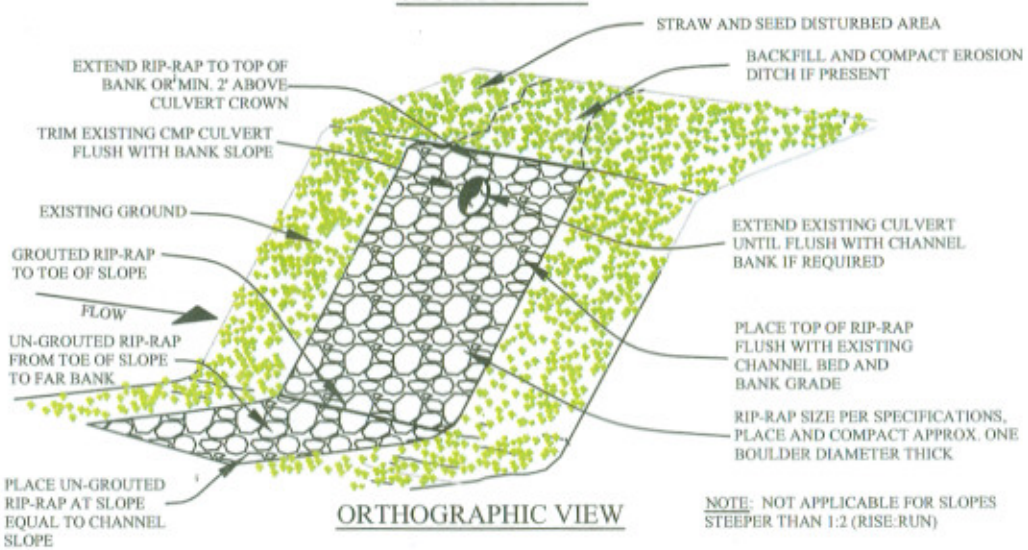


PLAN VIEW

TYPICAL SPLASH CURTAIN DETAIL



SECTION VIEW



ORTHOGRAPHIC VIEW

NOTE: NOT APPLICABLE FOR SLOPES STEEPER THAN 1:2 (RISE:RUN)

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Figure 3

MANAGEMENT PLAN FOR ARROYO SECO AT
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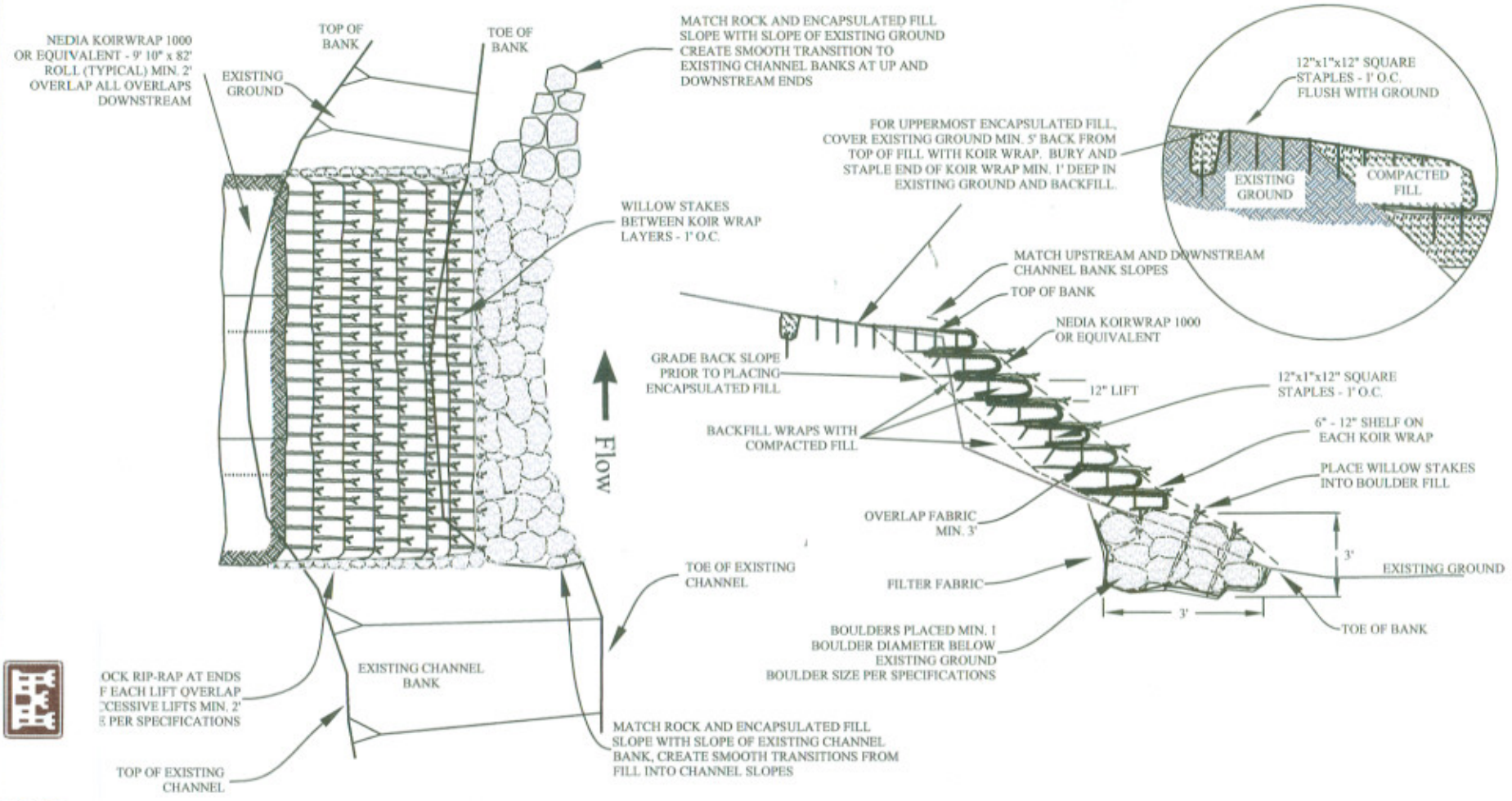
TYPICAL ENCAPSULATED FILL DETAIL



PLAN VIEW

SECTION VIEW

MANAGEMENT PLAN FOR ARROYO SECO AT
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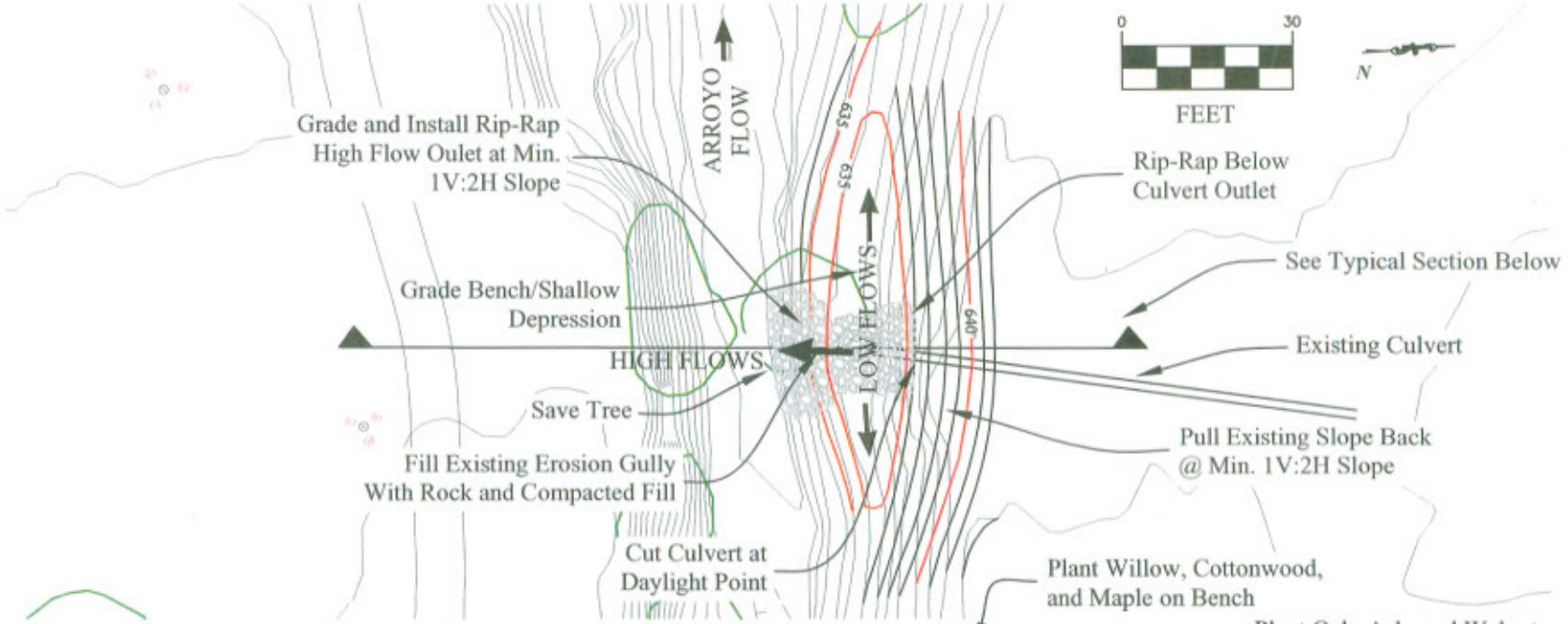
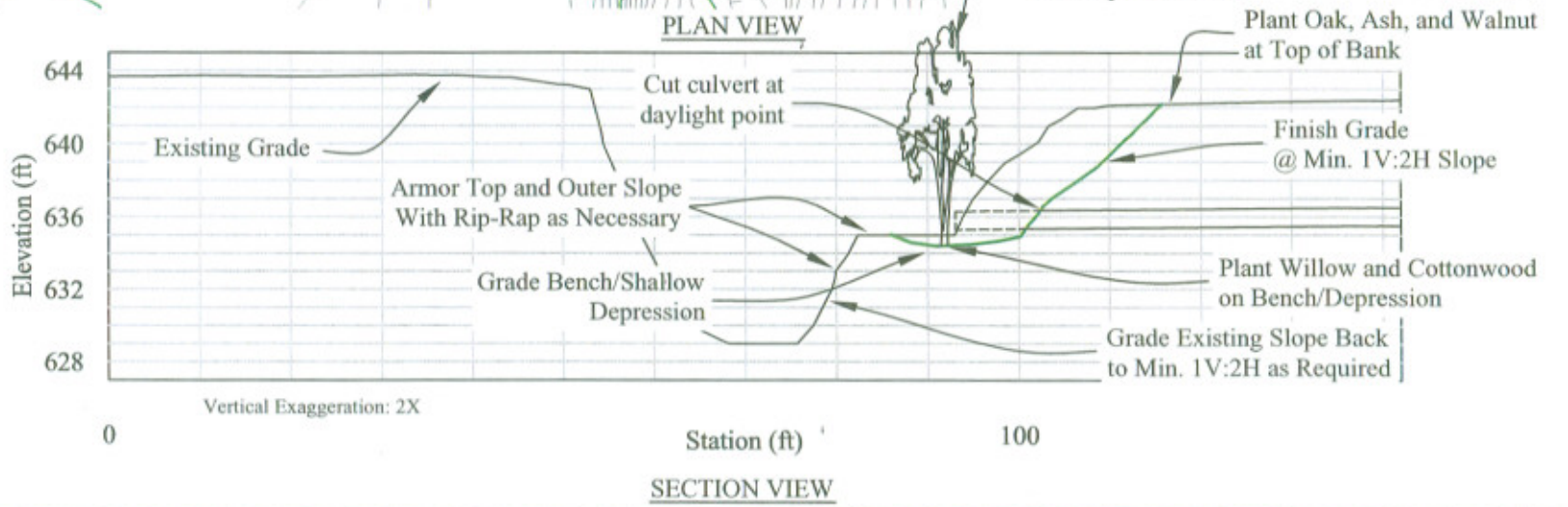
Figure 4

STORM DRAIN OUTLET REPAIR - INSET CUT BENCH





SECTION VIEW

MANAGEMENT PLAN FOR ARROYO SECO AT IA NATIONAL LABORATORIES, LIVERMORE, CA

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Figure 5

C STREET IMPROVEMENTS LOCATIONS

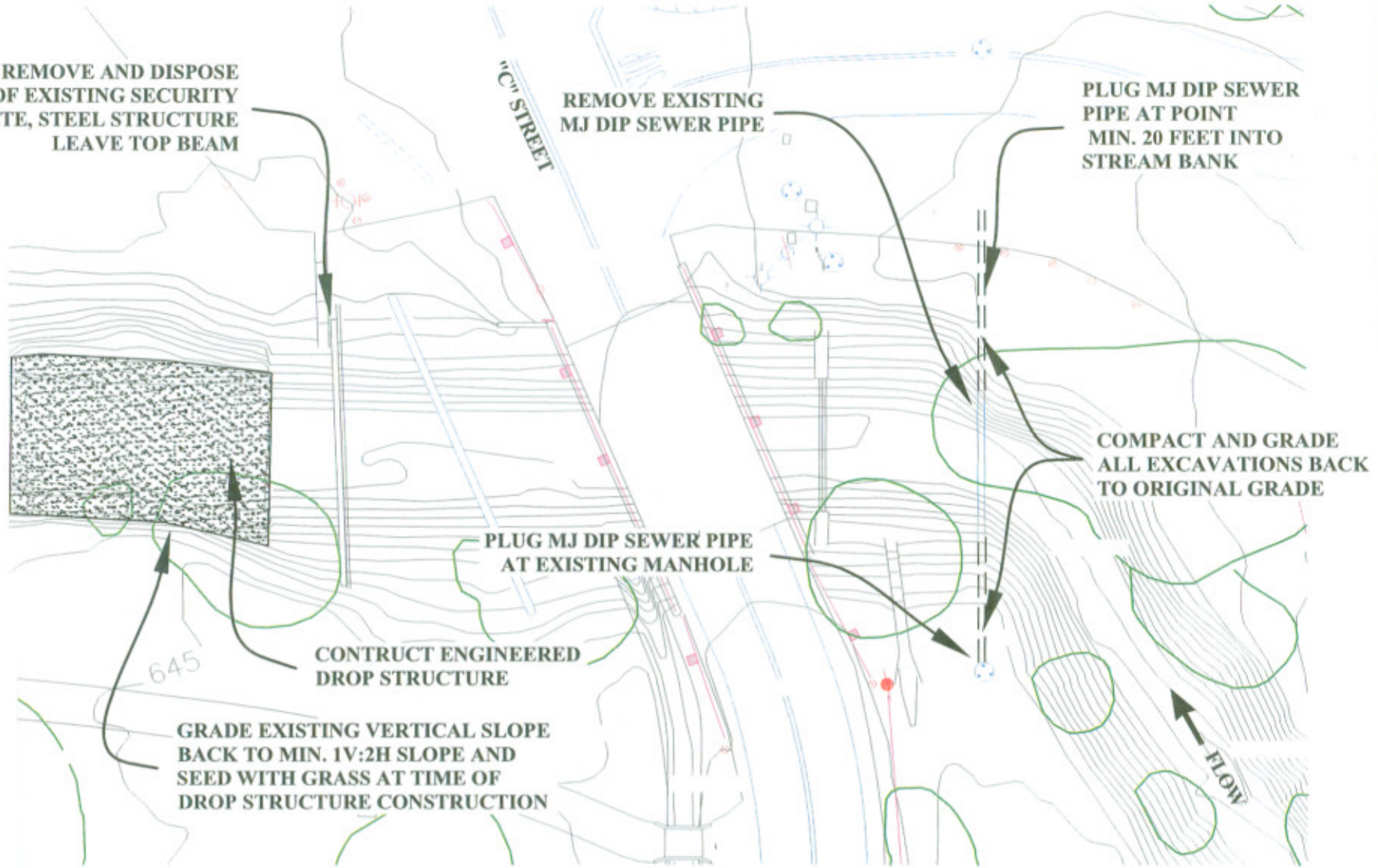

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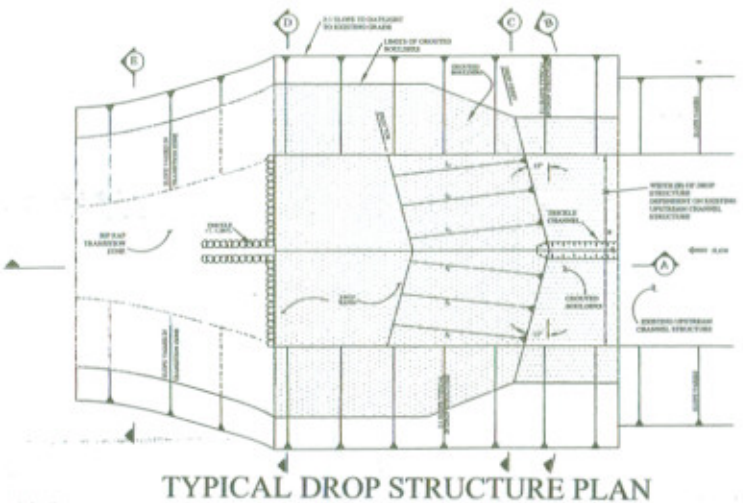
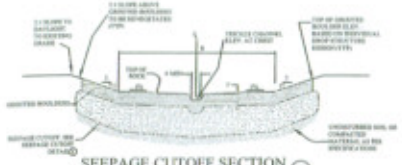
Figure 6

TYPICAL DROP STRUCTURE DETAIL

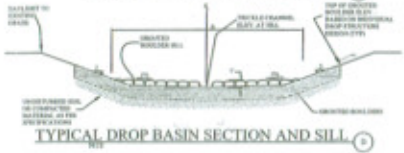


TYPICAL DROP STRUCTURE PLAN



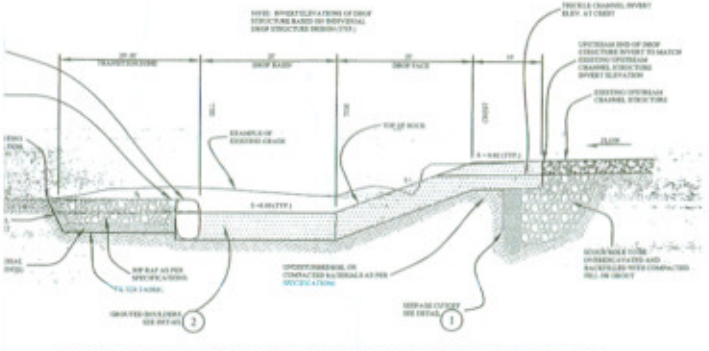
SEEPAGE CUTOFF SECTION

TYPICAL DROP FACE SECTION



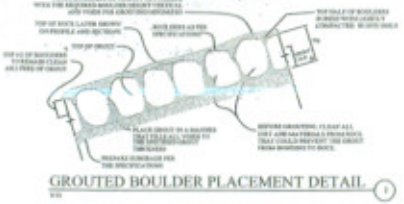
TYPICAL DROP BASIN SECTION AND SILL

TYPICAL TRANSITION ZONE SECTION



TYPICAL DROP STRUCTURE PROFILE (A)

SEEPAGE CUTOFF DETAIL



GROUTED BOULDER PLACEMENT DETAIL

TYPICAL GROUTED BOULDER DROP STRUCTURE

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	SANDIA NATIONAL LABORATORIES MAIL STOP 9902 7011 EAST AVE. LIVERMORE, CA 94550	PROJECT# MP00024		AS SHOWN

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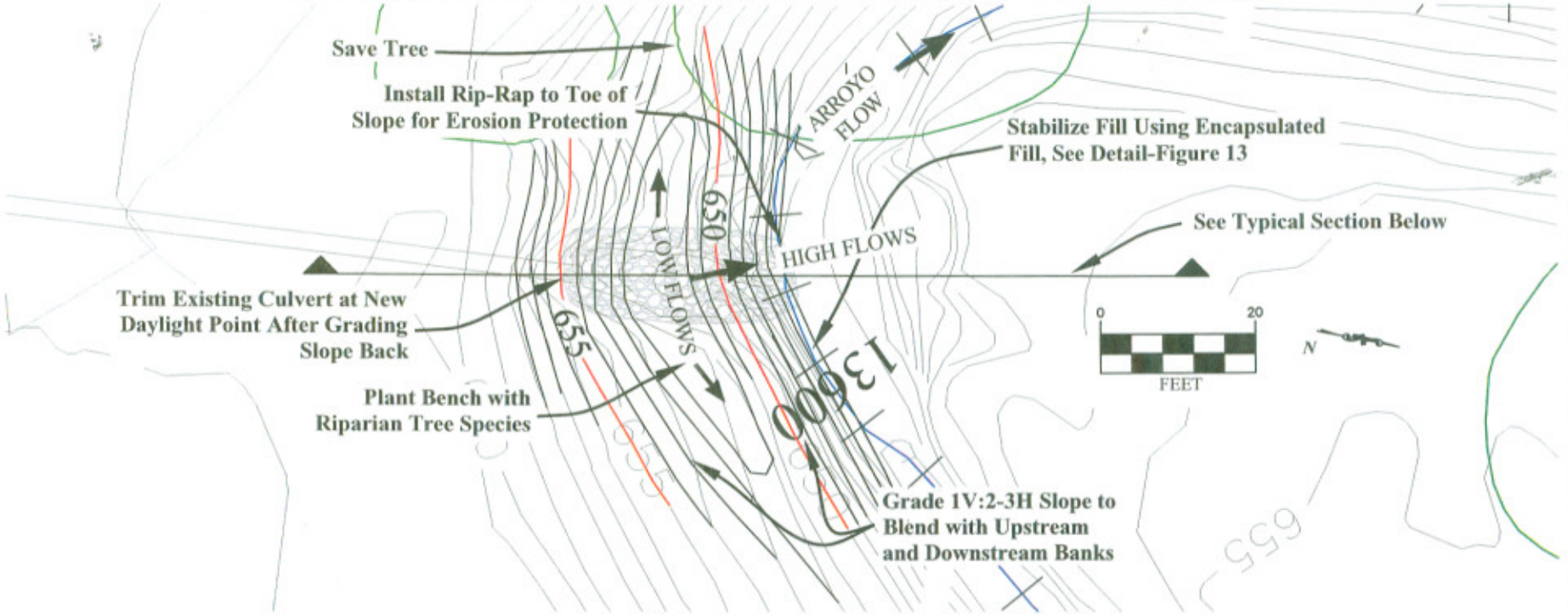
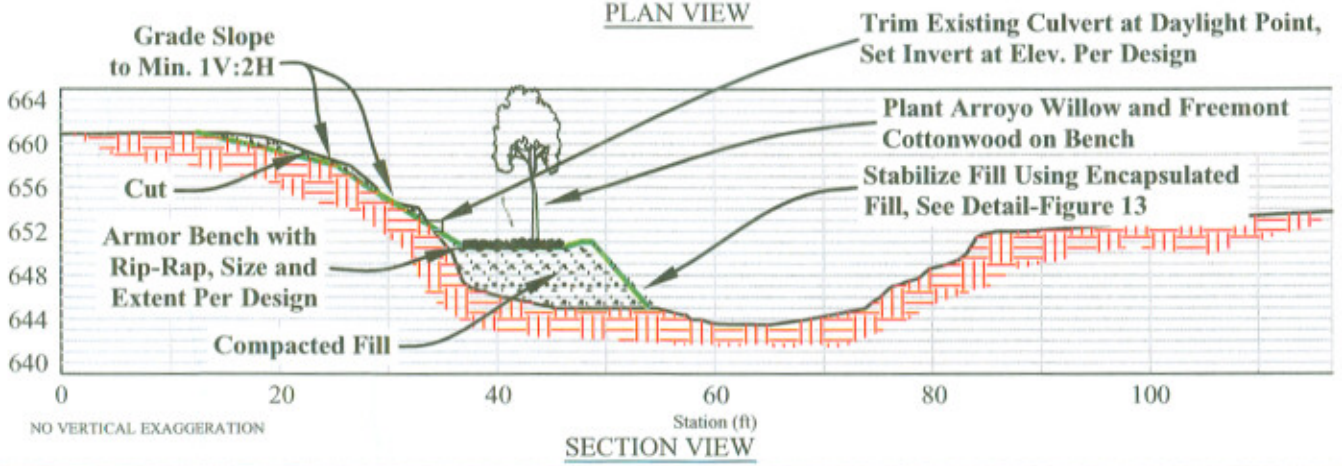
Sandia Arroyo Seco Project
November 13, 2006
Figure 7

STORM DRAIN REPAIR - INSET FILL BENCH



PLAN VIEW



SECTION VIEW

MANAGEMENT PLAN FOR ARROYO SECO AT IA NATIONAL LABORATORIES, LIVERMORE, CA

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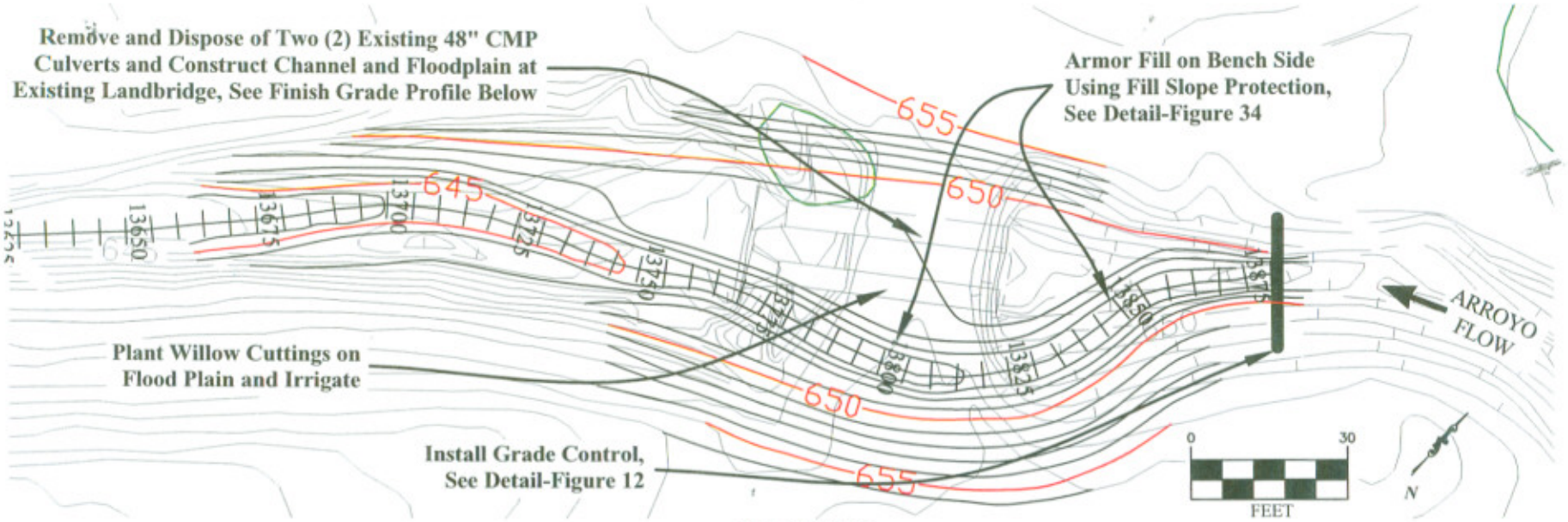
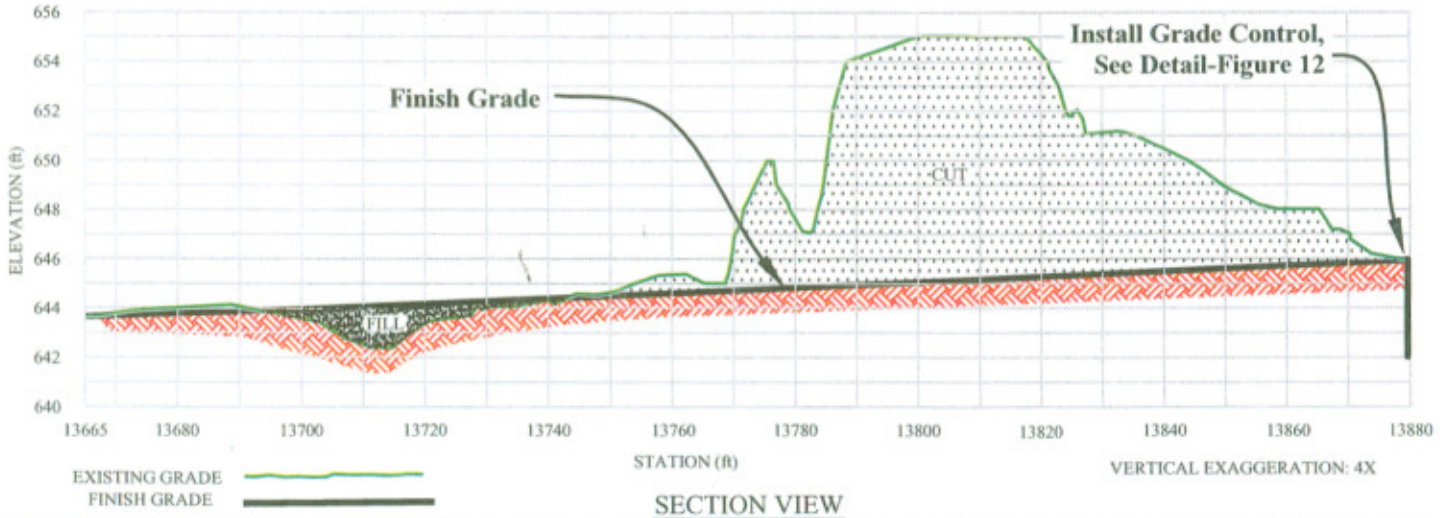
Sandia Arroyo Seco Project
November 13, 2006
Figure 8

LANDBRIDGE REMOVAL DETAIL



PLAN VIEW



SECTION VIEW

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November 13, 2006
Figure 9

FILL SLOPE PROTECTION DETAIL

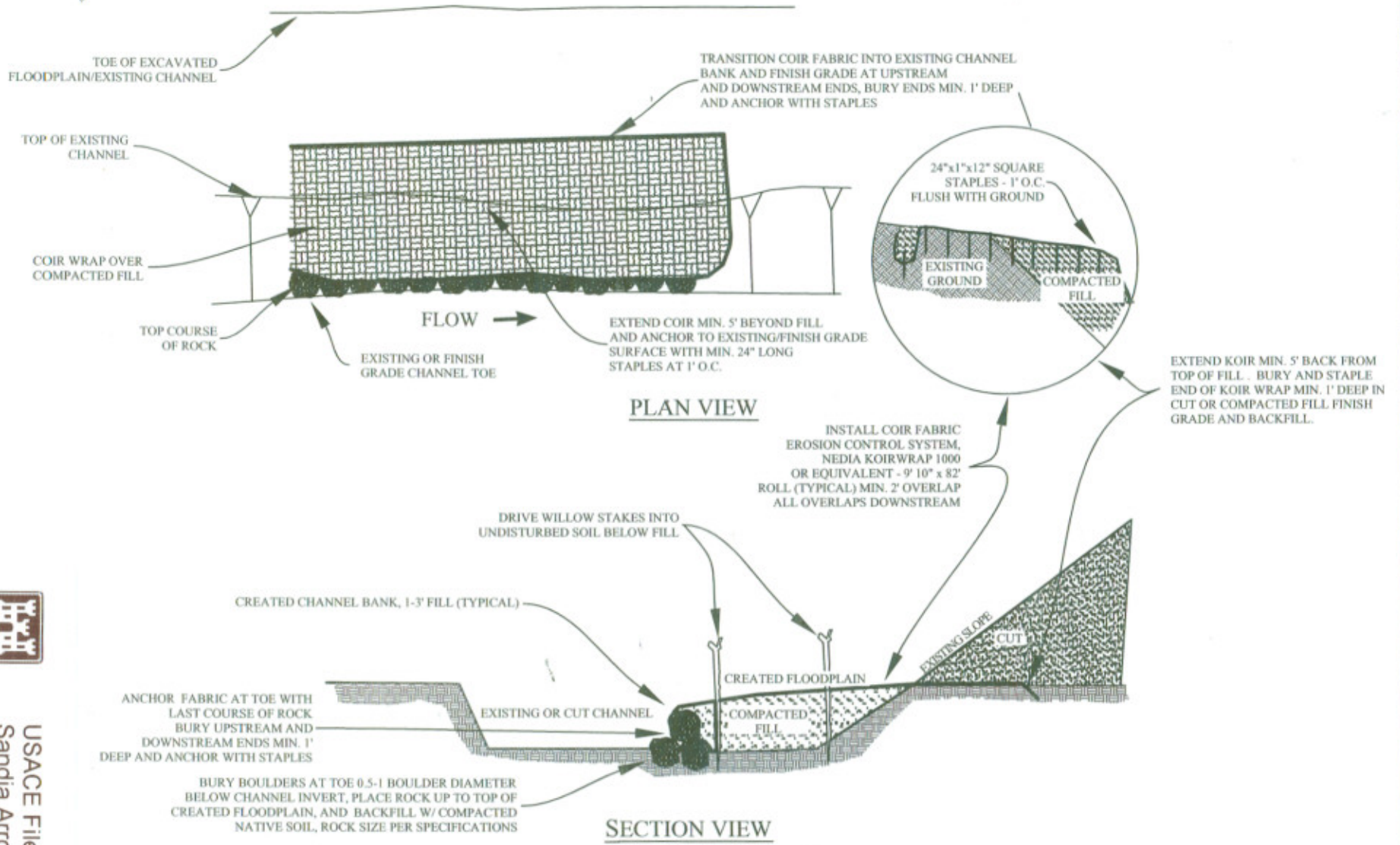

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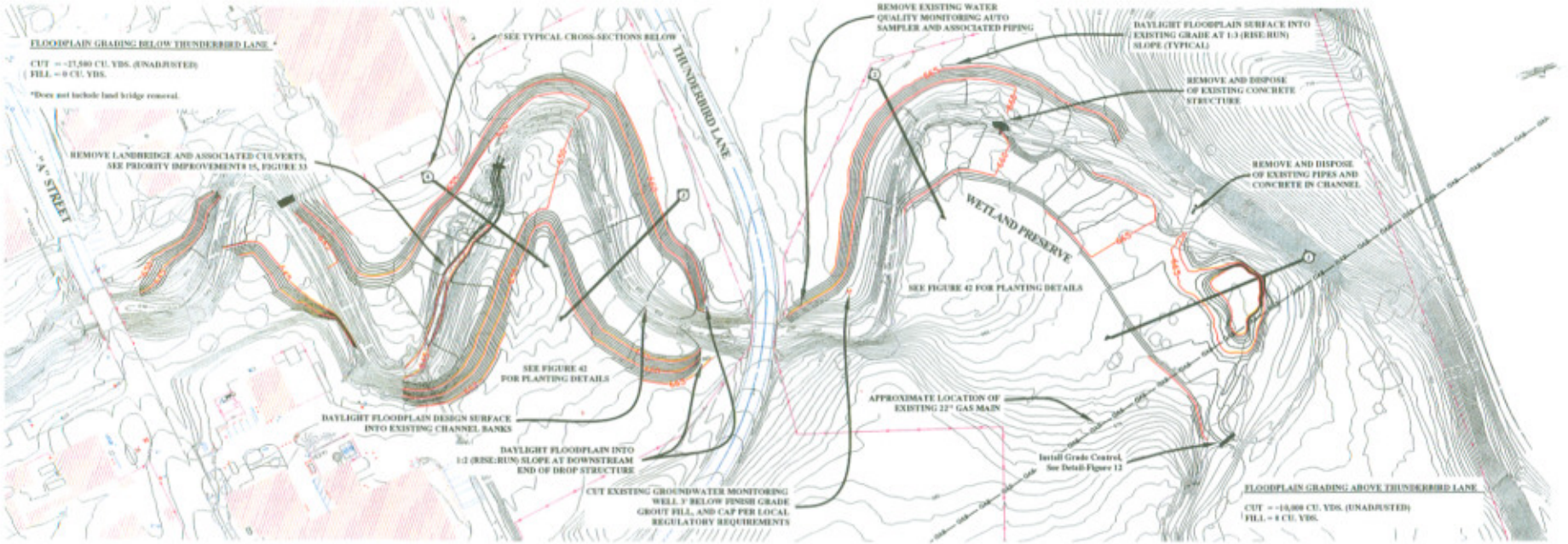
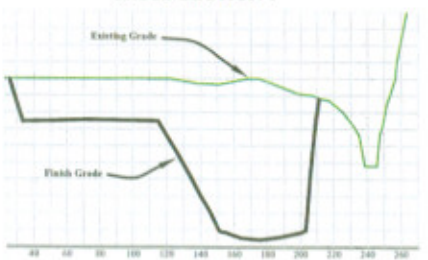
Figure 10

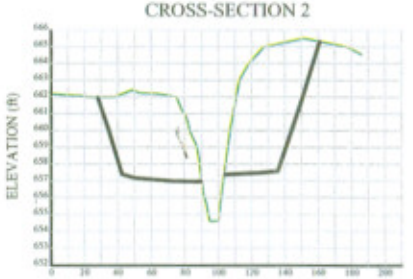
HABITAT ENHANCEMENT ALTERNATIVE 1-FLOODPLAIN, POND, AND WOODLAND CREATION



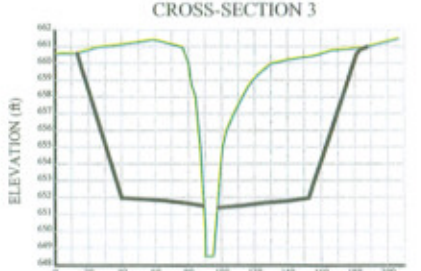
CROSS-SECTION 1



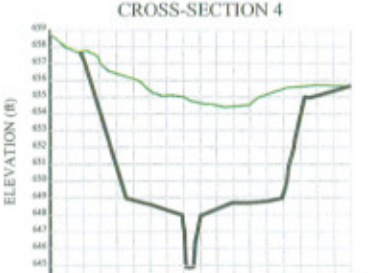
CROSS-SECTION 2



CROSS-SECTION 3



CROSS-SECTION 4



CROSS-SECTIONS LOOKING DOWNSTREAM. VERTICAL EXAGGERATION: 10X

DATE	JOB/SHEET	PREPARED FOR	MANAGEMENT PLAN FOR ARROYO SECO AT SANDIA NATIONAL LABORATORIES, LIVERMORE, CALIFORNIA	GMA GRAHAM MATTHEWS & ASSOCIATES	N	SCALE
8/01	2/02.50RN	SANDIA NATIONAL LABORATORIES MAIL STOP 0902 7011 EAST AVE. LIVERMORE, CA 94550	PROJECT# MP00024			0 60 FEET

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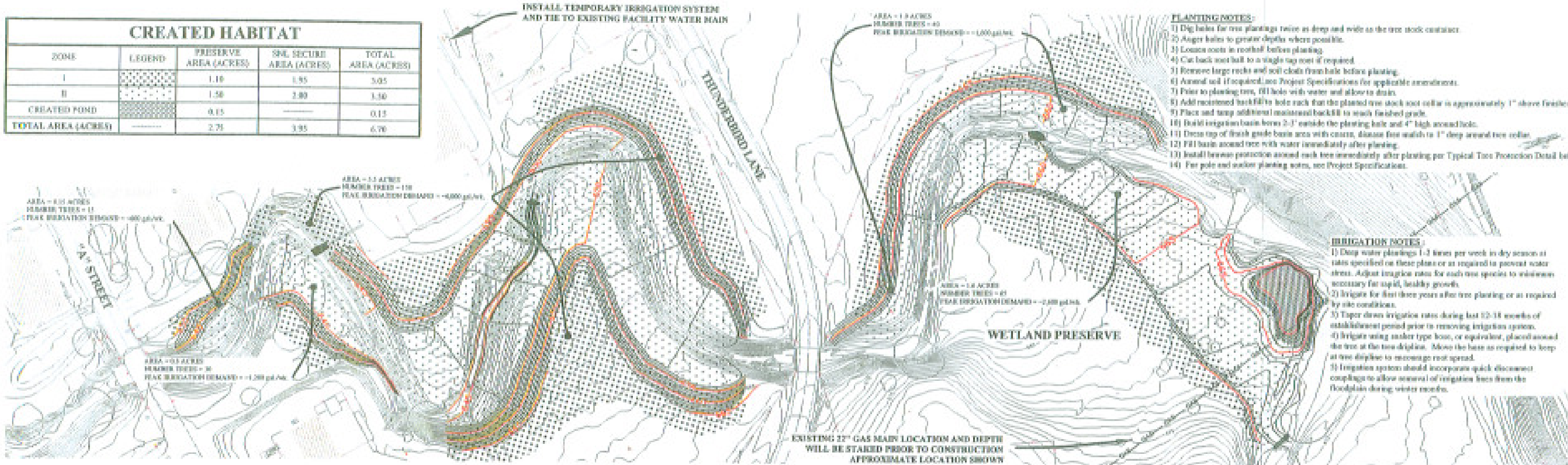
USACE File #400195S
Sandia Arroyo Seco Project
November 13, 2006
Figure 11

HABITAT ENHANCEMENT ALTERNATIVE 1-PLANTING AND IRRIGATION DETAILS

CREATED HABITAT

ZONE	LEGEND	PRESERVE AREA (ACRES)	SNL SECURE AREA (ACRES)	TOTAL AREA (ACRES)
I		1.10	1.95	3.05
II		1.50	2.00	3.50
CREATED POND		0.15	--------	0.15
TOTAL AREA (ACRES)	--------	2.75	3.95	6.70

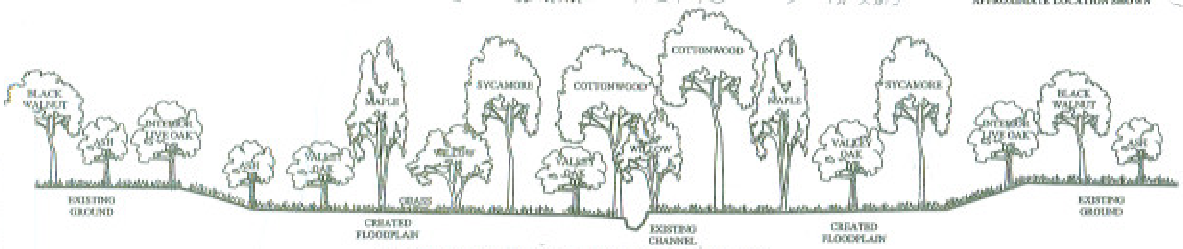


PLANTING NOTES:

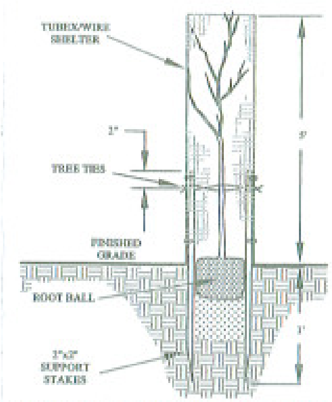
1) Dig holes for tree plantings twice as deep and wide as the tree stock container.
2) Auger holes to greater depths where possible.
3) Loosen roots in rootball before planting.
4) Cut back root ball to a single tap root if required.
5) Remove large rocks and soil clods from hole before planting.
6) Amend soil if required, see Project Specifications for applicable amendments.
7) Prior to planting tree, fill hole with water and allow to drain.
8) Add moistened backfill to hole such that the planted tree stock root collar is approximately 1" above finished grade.
9) Place and tamp additional moistened backfill to reach finished grade.
10) Build irrigation basin berm 2-3' outside the planting hole and 4" high around hole.
11) Dress top of finish grade basin area with coarse, disease free mulch to 1" deep around tree collar.
12) Fill basin around tree with water immediately after planting.
13) Install browse protection around each tree immediately after planting per Typical Tree Protection Detail below.
14) For pole and sucker planting notes, see Project Specifications.

IRRIGATION NOTES:

1) Deep water plantings 1-3 times per week in dry season at rates specified on these plans or as required to prevent water stress. Adjust irrigation rates for each tree species to minimum necessary for rapid, healthy growth.
2) Irrigate for first three years after tree planting or as required by site conditions.
3) Taper down irrigation rates during last 12-18 months of establishment period prior to removing irrigation system.
4) Irrigate using soaker type hose, or equivalent, placed around the tree at the tree dripline. Move the hose as required to keep at tree dripline to encourage root spread.
5) Irrigation system should incorporate quick disconnect couplings to allow removal of irrigation lines from the floodplain during winter months.



TYPICAL TREE PLANTING LOCATIONS



TYPICAL TREE PROTECTION DETAIL

TREE QUANTITIES AND WEEKLY PEAK IRRIGATION DEMAND BY SPECIES

ZONE	LEGEND	PLANT SPECIES	PERCENT IN ZONE	PRESERVE AREA NUMBER OF CONTAINER STOCK/POLE CUTTINGS OR SUCKERS*	SNL SECURE AREA NUMBER OF CONTAINER STOCK/POLE CUTTINGS OR SUCKERS*	TOTAL	WEEKLY PEAK IRRIGATION DEMAND (gal./wk./tree)
I		California Black Walnut (*Juglans hindsii*) Interior Live Oak (*Quercus wislizenii*) Flowering Ash (*Fraxinus dipetala*)	20 60 20	10/NA 30/NA 10/20	20/NA 60/NA 20/40	30/NA 90/NA 30/60	~25-50 ~5-10 ~25-50
II		Valley Oak (*Quercus lobata*) Big Leaf Maple (*Acer macrophyllum*) Arroyo Willow (*Salix lasiolepis*) Western Sycamore (*Platanus racemosa*) Fremont Cottonwood (*Populus fremontii*)	20 21 31 20 10	10/NA 10/NA 20/40 10/20 5/10	20/NA 20/NA 25/50 20/40 10/20	30/NA 30/NA 45/90 30/60 15/30	~10-20 ~25-50 ~30-60 ~25-50 ~25-50

...dicated, cuttings or suckers may be substituted for container stock at the rate of two (2) cuttings or suckers per hole.

		DATE	REV. DATE	PREPARED FOR
			2/02, WRN	SANDIA NATIONAL LABORATORIES MAIL STOP 9902 7011 EAST AVE. LIVERMORE, CA 94550
	WRN	8/01		

MANAGEMENT PLAN FOR ARROYO SECO AT SANDIA NATIONAL LABORATORIES, LIVERMORE, CALIFORNIA

PROJECT# MP00024

GMA
GRAHAM MATTHEWS & ASSOCIATES
Hydrology · Geomorphology · Stream Restoration

SCALE 0 60 FEET
N

U.S. Army Corps of Engineers
San Francisco District
Regulatory Branch

USACE File #400195S
Sandia Arroyo Seco Project
November 13, 2006
Figure 12

Table 1 – Summary of Activities

Site Number	Proposed Work	Square feet of permanent impact
1	Install a new 8' gravity sewer line along East Avenue, across the arroyo between the box culvert and road and terminate at the manhole just upstream of the flow monitoring station. Install a pump station immediately downstream of the flow monitoring station and 6' force main crossing East Avenue to West Perimeter drive and terminate at the existing LLNL manhole approximately 20 feet north of the LLNL arroyo crossing. Demolish existing sewer line crossing structures and restore channel.	740
2	Finish entrance edge of culvert and install wing wall on west entrance side.	50
3	Remove concrete debris that was placed in the arroyo as erosion control. Grade streambed to fill any holes and eliminate any rough transitions in the channel.	0
4	Improve storm-water drain outlet at SNL sewer crossing. See Figure 5.	400
5	Grade upper stream slope back and blend transition with banks upstream and downstream.	No impacts to Corps' jurisdiction
6	Fill scoured areas with riprap.	270
7	Remove unsupported portion of wing wall, fine grade channel bank, and improve surface runoff.	50 (temporary impacts)
8	Repair erosion and construct an off channel habitat in the form of a 30' by 70' inset bench. See Figures 3, 5 and 6.	540
9	Construct grouted boulder drop structure. See Figure 7.	1200
10	Excavate concrete debris and backfill as necessary.	70
11	Repair erosion and construct off channel habitat in form of 20' by 70' bench. See Figures 3 and 5.	400
12	Repair erosion and scour holes at the A Street Bridge crossing by installing an engineered grouted boulder drop structure at bridge.	1620
13	Repair erosion and scour holes at A Street Bridge by constructing off-channel habitat in form of 20' by 70' inset bench.	420
14	Repair erosion and construct off-channel habitat in form of 20' by 70' inset bench. See Figure 8.	800

Site Number	Proposed Work	Square feet of permanent impact
15	Remove land bridge and restore channel using bio-technical methods. See Figures 9 and 10.	890
16	Construct grouted boulder drop structure, grade entrance of culvert to smooth transition and eliminate flow concentrations. See Figure 7.	1620
17	Remove abandoned concrete structures and steel posts.	No impacts to Corps' jurisdiction
18	Conduct drainage study, incorporate findings into planned facility road and parking improvements. Install curbs, catch basins and storm-water detention facilities.	No impacts to Corps' jurisdiction

Note: Projects in grey were authorized under Corps Permit #27943